LED Spotlighting System for billboards

Technical features:

- ***LED Solid state lighting***
- ***High luminous efficiency***
- ***Power supplying @ 12-24VDC***
- ***Spotlight power: 12W***
- ***Number of used LED: 12***
- ***Minimum guaranteed luminous flux @If=350mA, Tj=25℃: 100lumen per LED***
- ***Maintenance of initial flux >80% within 60.000h***
- ***MTBF: 100.000h***
- ***Constant LED current - 300mA***
- ***Driver efficiency >92%***
- ***Flux reduction –30%***
- ***Control by microcontroller***
- ***Protection fuse***
- ***Over temperature protection***
- ***Terminal block for cables up to 2,5mmq***
- ***Aluminium die cast frame***
- ***Tempered glass - 5mm***
- ***Protection IP65***
- ***Easy cabling***

General description:

LED12.BB-12/24-350 has been properly studied for the use in high luminous efficiency and high Energy saving applications as in PV stand alone systems. It has been optimized for outdoor lighting as regards fixings and light projection.

All this is the ideal solution for the lighting of billboards considering also the possibility of a direct connection to Western Co. charge regulators code **SPB-LB, SPB-LR e SPB-LG.**

The lamp has got a power supplying and control electronics @ DC low voltage (**12-24VDC**) which has an average conversion efficiency > 92% and a control system by microcontroller of the maximum working temperature.

In case of reduced Energy availability it is possible to obtain a consumption saving by using the ***flux reduction up to -30%;*** this function can be activated and managed directly by the PV charge regulators SPB-LB, SPB-LR and SPB-LG.

Installation procedure:

LED12.BB-12/24-350 has been studied for fixing and installation with adjustable projection angle in outdoor applications. Having a IP65 degree protection, it provides protection against dust and water. While installing pay the maximum attention ***in respecting the polarities and avoid short-circuits;*** *they are destructive and they annul warranty.* Place **LED12.BB-12/24-350** having care to block its position using the proper fixings. ***We recommend an horizontal installation to avoid dazzling effects, light pollution and a greater quantity of direct flux.***

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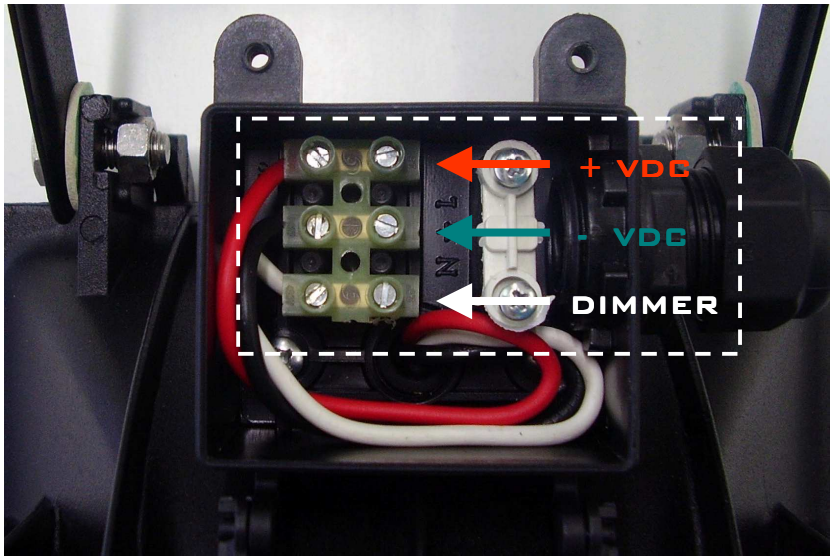
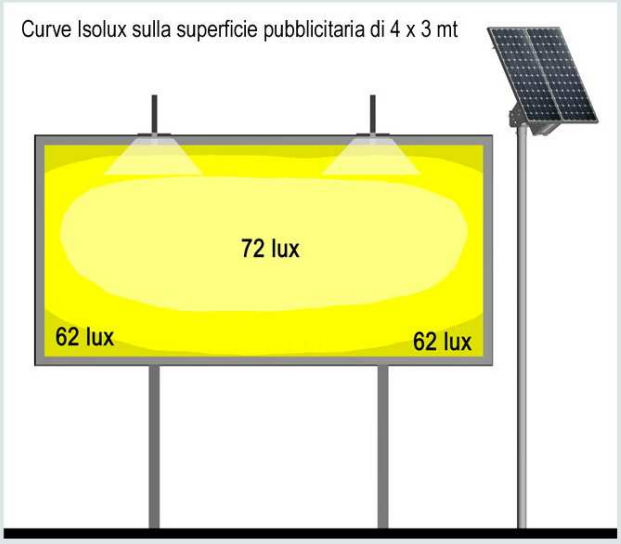
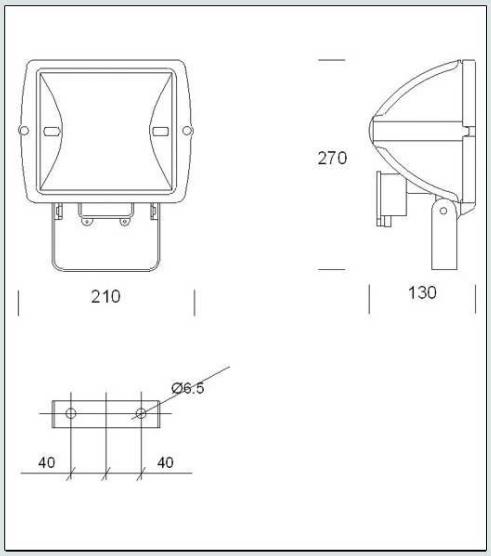
Connect to the input terminal-block the power supplying cables +VDC, -VDC and DIMMER, paying attention to respect the right polarities. In case of direct power supplying from battery the connection causes the lamp activation and the entry into service of the device.



Lighting performances: **LED12.BB-12/24-350** *has been optimized for the projection ob billboard with* ***90°V e 140°H asymmetrical opening angle*** *so to obtain a good uniformity even for a minimum distance of projection. Typically for installation on billboard having dimensions 4x3mt we obtain the following Isolux diagram:*





LED maximum junction temperature protection:

In case of high environment temperature, single LED string failure or elevated power dissipated on the same LEDs, the control electronics provide to limit the junction temperature of the LEDs within the limit of 100°C. Such a protection is realized through micro-controller control that limits the supplied power through ***customized software of management Western CO****. This micro-controller allows the power limitation also in case of reduced flux.*

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LED Features

Ta = ambient temperature
Tj = LED junction temperature

FEATURES	SIM	CONDITION	MIN	TIP	MAX	UNIT
Single LED Minimum guaranteed luminous flux	FI-1LED	If=350mA, Tj=25℃	100	-	-	lm
Single LED minimum guaranteed power consumption	P-1LED	If=350mA, Tj=25℃	1,155	-	-	W
Single LED minimum guaranteed luminous efficiency	LumEff-LED	If=350mA, Tj=25℃	86,6	-	-	lm/W
n-LED minimum guaranteed luminous flux	Fi-nLED	12LED @ If=350mA, Tj=25℃	1200	-	- -	lm lm
Color temperature	CCT		-	6000	-	℃K
Color rendering index	CRI		-	75	-	

Spotlight Features:

FEATURES	SYM	CONDITION	MIN	TIP	MAX	UNIT
Power Supplying: Working Voltage:	Vdd	12V or 24V battery	10		30	Vdc
LED Current	If		-	300	-	mA
Projector power consumption (including LED Driver efficiency)	P- Proj	12LED @ If=300mA, Ta=25℃	-	12	-	W
Projector outgoing luminous flux	Fi- Proj	12LED @ If=300mA, Ta=25℃	-	900	-	lm
Projector luminous efficiency (Fi-lamp/P-lamp)	LumEff-Proj		-	75	-	Lm/W
Luminous flux reduction	DeltaFi		-	30	-	%
Lifetime	LM80	LM80% @ If=300mA, Ta=25℃		60		khrs
Output Volatge (Led string)	VLED	Tj=25℃	30	33	42	V
Operative Frequency	Fosc	Ta=25℃		100,0		KHz
LED driver Efficiency	DC-Eff		90	92	95	%
Temperature of working environment	TA		-10	25	60	℃
Section of input conductors	-		-	2,5	-	mm^2
IP Protection	IP			65		IP
External mechanic dimensions	-			270 x 210 x 130		mm
Weight	W			1,5		kg

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